

REMARKS

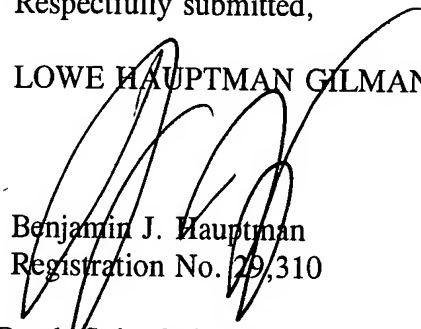
The foregoing amendments are submitted in order to correct some minor errors and improve syntax.

Entry of this Preliminary Amendment is courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP


Benjamin J. Hauptman
Registration No. 29,310

1700 Diagonal Road, Suite 310
Alexandria, Virginia 22314
(703) 684-1111 BJH:jk
Date: May 8, 2002
Facsimile: 703-518-5499

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The paragraph beginning at line 23, on page 7, has been replaced with the following rewritten paragraph:

Such construction ensures that the molten paste is automatically replenished from the molten paste replenishing unit to the storage tank when the amount of molten paste stored in the storage tank is reduced due to an increase in discharge of the molten [metal] paste from the nozzle.

The paragraph beginning at line 9, on page 12, has been replaced with the following rewritten paragraph:

The storage tank 22 of the pressure pump unit 21 is connected through a control on/off valve 27 and a molten paste feed pipe 30 to a molten paste replenishing unit 23. The control on/off valve 27 functions to automatically replenish the molten paste P stored in the molten paste replenishing unit 23 therefrom to the storage tank 22 of the pressure pump unit 21. The control on/off valve 27 includes an air-driven valve 27a using air as a drive source therefor and an air change-over valve 27b constituted by an electromagnetic valve or solenoid valve operated for feeding air for driving to the air-driven valve 27a. The air change-over valve 27b operates depending on a control command fed thereto from a control unit 28. When air is fed through the air change-over valve 27b and a pipe 27c to the air-driven valve 27a, a piston rod 27e is

moved in a direction away from the storage tank 22 to keep the air-driven valve 27a open. When air is fed from the air change-over valve 27b through a pipe 27d, the piston rod 27e is forced toward the storage tank 22 to keep the air-driven valve 27a closed. A rod member 27f of the piston rod 27e is mounted at a distal end thereof with a ball valve B, which functions to close a molten paste inlet of the storage tank 22. The air-driven valve 27a, when it is not fed with air, functions to urge the piston rod 27e toward the storage tank 22 by means of a spring 27h, resulting in being kept closed. In Fig. 2, the control on/off 27 is kept at a state which keeps the molten paste P from being replenished from the molten paste replenishing unit 23 to the storage tank 22. The control unit 28 outputs a change-over signal to the air change-over valve 27b depending on an output of the level sensor 25. When the level sensor 25 detects that the level L of the molten paste P in the storage tank 22 of the molten paste feed unit 21 is lower than a first level L1, the control unit 28 outputs, to the air change-over valve 27b, a change-over signal which permits air to be fed through the pipe 27c. This results in the air-driven valve 27a being open, so that the molten paste P may start to be automatically replenished from the molten paste replenishing unit 23 to the storage tank 22. Such replenishment of the molten paste P permits the level L of the molten paste P in the storage tank 22 to be raised. Then, when the level sensor 25 detects the level L of the molten paste reaches a second level L2 higher than the first level L1, the control unit 28 feeds the air change-over valve [27] 27b with a change-over signal which permits air to be fed through the pipe 27d. This keeps the air-driven valve 27a closed, to thereby interrupt replenishment of the molten paste P from the molten paste replenishing unit 23 to the

storage tank 22 of the molten paste feed unit 21. Such operation is repeated. The molten paste replenishing unit 23 is provided thereon with a heater (not shown), so that the molten paste P may be fed to the storage tank 22 while being kept constantly molten.

The paragraph beginning at line 5, on page 14, has been replace with the following rewritten paragraph:

In Fig. 1, reference numeral 31 to 35 each designate a regulator, which functions to adjust a pressure of air fed from the compressor 29. The timing controller 17 outputs a rotation command to the cylinder drive mechanism 7 before feeding of a change-over command to the air change-over valve 19b or at the same time as the feeding. Also, the timing controller 17 concurrently outputs a movement command to the gun head moving mechanism 15. Upon receipt of the movement command from the timing controller 17, the gun head moving mechanism 15 moves the gun head 13 at a predetermined speed. When the gun head 13 is moved in a predetermined amount, the gun head moving mechanism 15 stops movement of the gun head 13. When the gun head 13 is stopped, the timing controller 17 feeds the air change-over valve 19b with a change-over command which permits the [air change-over] air-driven valve 19a to be closed. This results in the air-driven valve 19a being closed, to thereby keep the molten paste P in the storage tank 22 of the molten paste feed unit 21 from being fed to the gun head 13.

The paragraph beginning at line 10, on page 16, has been replaced with the following rewritten paragraph:

Alternatively, a position at which the nozzle 11 is initially arranged for discharging the molten paste P therefrom (discharge start position) may be defined at the end 47b of the coated region 47 of the inner peripheral surface of the cylinder 5 on the side of the opening 41. In this instance, the nozzle 11 is moved to the end 47a of the coated region 47 of the inner peripheral surface 45 of the cylinder 5. Also, the illustrated embodiment may be constructed so that a rotational speed of the nozzle 11 is set to be lower than a predetermined rotational speed (for example, 3300 rpm) during a period of time for which the molten paste P is being coated on the coated region 47 and then increased to a level of the predetermined rotational speed after coating of the molten [metal] paste P on the coated region 47, so that the molten paste P may be spread on the coated region 47.